

1

Abstract

2 A method and corresponding system provide a tortuous path, which functions as
3 restrictors or filters, in diffusion bonded plates for fluid handing. Fluid includes gases,
4 liquids and all types of sample fluids. The method constructs various restrictive elements
5 and etches the restrictive elements into one or more substrates. The substrates are then
6 bonded together using diffusion bonding technology to form fluid flow channels with
7 integrated tortuous paths (functioning as restrictors or filters). The method thus provides
8 a restricting or filtering device that is monolithically integrated into a fluid handling
9 system. The filtering device can also be used as a backup to an external filter to prevent
10 contaminating particles from entering delicate mechanisms of the fluid handling system.